

JPRS-UCC-84-002

26 March 1984

# USSR Report

CYBERNETICS, COMPUTERS AND  
AUTOMATION TECHNOLOGY

TABLES OF CONTENTS

No. 67, 21 January 1983-

No. 75, 27 October 1983



FOREIGN BROADCAST INFORMATION SERVICE

21 January 1983

USSR REPORT  
CYBERNETICS, COMPUTERS AND AUTOMATION TECHNOLOGY  
No. 67

CONTENTS

GENERAL

Computer Progress and Problems in Tajik SSR.....	1
Ineffective US Export Controls.....	4
CEMA Software Cooperation.....	5

HARDWARE

New Superminiature Computers Developed.....	7
Series Production of Nairi-41.....	8
PS-2000 Attains 200 Mops.....	9

APPLICATIONS

Automated Control System Development for Volga Shipping Line....	12
Centralized Computerized Accounting for River Fleet.....	15

PUBLICATIONS

Protecting Information in Computer Systems.....	18
---	----

10 March 1983

USSR REPORT  
CYBERNETICS, COMPUTERS AND AUTOMATION TECHNOLOGY

No. 68

## CONTENTS

## GENERAL

- Cooperation of CEMA Nations in Computer Field  
(Yakov Ryabov; EKONOMICHESKOYE SOTRUDNICHESTVO  
STRAN-CHLENOV SEV, Feb 81)..... 1
- CEMA Agreement on Development in Microelectronics  
(Mikhail Rakovskiy; EKONOMICHESKOYE SOTRUDNICHESTVO  
STRAN-CHLENOV SEV, Sep 82)..... 10

## HARDWARE

- Riga-Budapest Computer Link Via Telephone  
(GUDOK, 3 Nov 82)..... 15
- Minsk Production Association Improves Tape Units  
(D. Pislyakov; EKONOMICHESKAYA GAZETA, Oct 82)..... 16
- SM-1403 Uses Italian Peripherals  
(EKONOMICHESKAYA GAZETA, Dec 82)..... 17
- Engineer Receives Gold Medal for Accelerating Computer Production  
(D. Pislyakov; SOVETSKAYA BELORUSSIYA, 15 Aug 82)..... 18
- NEVA-1M Control Complex for Communication Switching Systems  
(Anatoliy Grigor'yevich Kukharchuk, et al.;  
UPRAVLYAYUSHCHIYE SISTEMY I MASHINY, Sep-Oct 82)..... 20
- Optical Method for Encoding and Processing Information  
(Ye. G. Stolov; AVTOMETRIYA, Sep-Oct 82)..... 30

## SOFTWARE

Functional Features of Problem-Oriented Complexes Based on SM-1410 (Vitaliy Petrovich Klimenko, et al.; UPRAVLYAYUSHCHIYE SISTEMY I MASHINY, Sep-Oct 82).....	39
Experimental System for Speech Recognition by Phonemes (Taras Klimovich Vintsyuk, et al.; UPRAVLYAYUSHCHIYE SISTEMY I MASHINY, Sep-Oct 82).....	43
Process Interaction Mechanism in Communication Processor Control Program (Vladislav Vladimirovich Gusev, Anatoliy Petrovich Chernat; UPRAVLYAYUSHCHIYE SISTEMY I MASHINY, Sep-Oct 82).....	55
Integrated Multiprogramming in Unified System Operating System (Filipp Illarionovich Andon, et al.; UPRAVLYAYUSHCHIYE SISTEMY I MASHINY, Sep-Oct 82).....	64
Generation of Program Cross Facilities for Computer System Simulation (Vladimir Aleksandrovich Smol'nikov; UPRAVLYAYUSHCHIYE SISTEMY I MASHINY, Sep-Oct 82).....	73
Extension of Unified System Operating System R-Technological Complex Facilities in Implementing Technical and Economic Information Processing Systems (Lyubov' Nikolayevna Voinova, Viktor Vladimirovich Karpenko; UPRAVLYAYUSHCHIYE SISTEMY I MASHINY, Sep-Oct 82).	75
Operating System for the PAROM Microcomputer Homogeneous Computer System (Svetlana Al'bertovna Zuykova, et al.; UPRAVLYAYUSHCHIYE SISTEMY I MASHINY, Sep-Oct 82).....	80

## APPLICATIONS

More Efficient Use of Computers in Estonian SSR Proposed (V. Alad'yev; SOVETSKAYA ESTONIYA, 6 Jan 83).....	88
Steps Suggested for Improving Computer Use in Kiev (O. Gusev; PRAVDA, 27 Sep 82).....	90
Progress on Ukrainian Automated Planning Calculation System (V. N. Khalapsin, Interview; RABOCHAYA GAZETA, 23 Sep 82).....	94
Automation of Data Processing in Stroybank SSSR (Yu. A. Chumachenko; FINANSY SSSR, Aug 82).....	96

## CONFERENCES

- Seminar Held on Interactive Systems  
(Leonina Nikolayevna Nekrasova, et al.; UPRAVLYAYUSHCHIYE  
SISTEMY I MASHINY, Sep-Oct 82)..... 98

## ORGANIZATIONS

- History of Ukrainian Institute of Cybernetics  
(UPRAVLYAYUSHCHIYE SISTEMY I MASHINY, Sep-Oct 82)..... 101

## PUBLICATIONS

- Table of Contents From 'CONTROL SYSTEMS AND MACHINES',  
September-October 1982  
(UPRAVLYAYUSHCHIYE SISTEMY I MASHINY, Sep-Oct 82)..... 111
- Information Security at Computing Centers and in Automated  
Control Systems (From Non-Soviet Press Data)  
(V. A. Gerasimenko; UPRAVLYAYUSHCHIYE SISTEMY I MASHINY,  
Jul-Aug 82)..... 114

6 May 1983

USSR REPORT  
CYBERNETICS, COMPUTERS AND AUTOMATION TECHNOLOGY

No. 69

## CONTENTS

## GENERAL

- New High-Performance Elektronika-79 Minicomputer  
and Efficiency of Use in Schematic Design Systems  
of Large Integrated Circuits  
(I. L. Talov, et al.; UPRAVLYAYUSHCHIYE  
SISTEMY I MASHINY, Nov-Dec 82)..... 1
- Problem of Internal Interface in Microprocessor Systems  
(M. P. Gal'perin, et al.; UPRAVLYAYUSHCHIYE  
SISTEMY I MASHINY, Nov-Dec 82)..... 8

## HARDWARE

- Computer Technology and Automation as the Basis for  
Intensification of the National Economy  
(V. A. Myasnikov; UPRAVLYAYUSHCHIYE SISTEMY  
I MASHINY, Nov-Dec 82)..... 26
- Microprocessor Equipment Complex  
(B. N. Malinovskiy, et al.; UPRAVLYAYUSHCHIYE  
SISTEMY I MASHINY, Nov-Dec 82)..... 33
- Some Characteristics of Configuration of SM-2M Complexes  
(V. P. Kazachenko, et al.; UPRAVLYAYUSHCHIYE  
SISTEMY I MASHINY, Nov-Dec 82)..... 44
- Device for Controlling Coding and Input of Random  
Processes in a Computer  
(M. S. Titov; AVTOMETRIYA, Jan-Feb 83)..... 47

## SOFTWARE

- Paperless Programming Technology in Dialogue Environment  
(I. V. Vel'bitskiy; UPRAVLYAYUSHCHIYE SISTEMY I  
MASHINY, Nov-Dec 82)..... 52

Organization of Design Process in Paperless Programming P-Technology (A. A. Taranenko, et al.; UPRAVLYAYUSHIYE SISTEMY I MASHINY, Nov-Dec 82).....	64
Graphical Display of Algorithms in Paperless Programming P-Technology (L. I. Sholmov, et al.; UPRAVLYAYUSHCHIYE SISTEMY I MASHINY, Nov-Dec 82).....	67
Diosim--System for Simulation of Digital Processes on YES Computer (T. P. Mar'yanovich, et al.; UPRAVLYAYUSHCHIYE SISTEMY I MASHINY, Nov-Dec 82).....	73
Display-Oriented Editor of Symbolic Data for SM-3 and SM-4 Computers (T. V. Lunina; UPRAVLYAYUSHCHIYE SISTEMY I MASHINY, Nov-Dec 82).....	79
Relational Homogeneously-Structured Disconnected Database (N. G. Zaytsev; UPRAVLYAYUSHCHIYE SISTEMY I MASHINY, Nov-Dec 82).....	83
Scientific and Technical Committee on Computer Programming Languages and Systems (A. N. Maslov; UPRAVLYAYUSHCHIYE SISTEMY I MASHINY, Nov-Dec 82).....	95
APPLICATIONS	
Kiev Automated Control System, Design Features and Prospects for Development (V. A. Zgurskiy, et al.; UPRAVLYAYUSHCHIYE SISTEMY I MASHINY, Nov-Dec 82).....	97
Organization of Data Exchange Between Computer and Remote Users (P. M. Ivanov, et al.; UPRAVLYAYUSHCHIYE SISTEMY I MASHINY, Nov-Dec 82).....	107
Characteristics of Using Control Computer Complexes in Automated Production Process Control Systems in Wide-Strip Rolling Mills With Processor Control (I. N. Bogayenko, et al.; UPRAVLYAYUSHCHIYE SISTEMY I MASHINY, Nov-Dec 82).....	115

## CONFERENCES

Developing Technology of Scientific Research and Introduction of Results Into National Economy (M. A. Luchka, et al.; UPRAVLYAYUSHCHIYE SISTEMY I MASHINY, Nov-Dec 82).....	120
Use of Computer Equipment to Control Production Processes in Instrument Building (I. S. Yeremeyev, G. A. Pimenova; UPRAVLYAYUSHCHIYE SISTEMY I MASHINY, Nov-Dec 82).....	124
Improving Management of Production Association Based on Standardization and Computer Equipment (P. Y. Kalita; UPRAVLYAYUSHCHIYE SISTEMY I MASHINY, Nov-Dec 82).....	127
Problems of Developing Programs for Calculating Process Control (B. N. Pan'shin; UPRAVLYAYUSHCHIYE SISTEMY I MASHINY, Nov-Dec 82).....	131
Problems of Theory and Design of Data Converters (P. S. Klochan; UPRAVLYAYUSHCHIYE SISTEMY I MASHINY, Nov-Dec 82).....	135

## PUBLICATIONS

Table of Contents of Journal 'Automatic Monitoring and Measuring', January-February 1983 (AVTOMETRIYA, Jan-Feb 83).....	139
---	-----

24 May 1983

USSR REPORT  
CYBERNETICS, COMPUTERS AND AUTOMATION TECHNOLOGY

No. 70

## CONTENTS

## GENERAL

- USSR-Hungarian Cooperation  
(SOVIET EXPORT, Jan-Feb 83)..... 1

## HARDWARE

- Hardware for Data Teleprocessing: AP-4  
(A. Kryukov, et al.; VESTNIK STATISTIKI, Feb 83)..... 6

## APPLICATIONS

- Role of Automated Control Systems in Trade Management  
(A. Shpagin; SOVETSKAYA TORGOVLYA, Dec 82)..... 10

- Development of the RSFSR Gosplan Automated System for Plan  
Calculations and Use of Small Computers  
(N. S. Zenchenko; EKONOMIKA I MATEMATICHESKIYE METODY,  
Nov-Dec 82)..... 17

- Automated System for Plan Calculations--Current Status and  
Developmental Prospects  
(V. V. Kossov; EKONOMIKA I MATEMATICHESKIYE METODY,  
Nov-Dec 82)..... 20

- Problem of Visualizing Information and Digital Processing of  
Images  
(O. Ya. Usykov, et al.; VISNYK AKADEMIYI NAUK  
UKRAYINS'KOYI RSR, Dec 82)..... 31

23 June 1983

USSR REPORT  
CYBERNETICS, COMPUTERS AND AUTOMATION TECHNOLOGY

No. 71

## CONTENTS

## GENERAL

Survey of Programs for Development of Computer Technology (EKONOMICHESKAYA GAZETA, Mar 83).....	1
RSFSR Education Minister Outlines Ways of Improving Engineering Education (I. Obrastsov; PRAVDA, 27 Mar 83).....	6
Poor Quality of 'Iskra-2210' Computers (G. Nikolayev; EKONOMICHESKAYA GAZETA, Nov 82).....	10
Soviet Unified System Computers Shipped to Czechoslovakia (EKONOMICHESKAYA GAZETA, Jan 83).....	11

## HARDWARE

New Microcomputer Developed by 'Energopribor' Plant (EKONOMICHESKAYA GAZETA, Jan 83).....	12
System for Computer-Aided Design of Power Semiconductor Devices Developed (A. Favorskaya; SOVETSKAYA ESTONIYA, 27 Feb 83).....	13
New SM-1600 Computer in Production at Vilnius Plant (V. Danilyavichyus; SOVETSKAYA LITVA, 24 Mar 83).....	16

## APPLICATIONS

Automated System for Control of Drilling of Printed Circuit Boards (S. D. Perekhvatov, et al.; MEKHANIZATSIYA I AVTOMATIZATSIYA PROIZVODSTVA, Feb 83).....	18
---	----

Computer-Aided Design of Nuclear Power Plants (A. Terzyan; KOMMUNIST, 17 Mar 83).....	22
Data Processing Center (A. A. Anistratenko, et al.; AVTOMETRIYA, Nov-Dec 82).....	23
Architecture of Distributed Multiprocessor System for Automating Experiments (V. M. Zavadskiy; AVTOMETRIYA, Nov-Dec 82).....	34
'Medius' Process Control System for Carbamide Production Introduced (G. Golub; SOVETSKAYA ESTONIYA, 15 Mar 83).....	38
Automated Systems of Financial-Credit Organizations Discussed (B. I. Filimonov, et al.; FINANSY SSSR, Mar 83).....	43
Automated Control Systems in Moldavian Agriculture Discussed (V. Moroz, T. Platonova; SEL'SKOYE KHOZYAYSTVO MOLDAVII, Feb 83).....	50
Tasks of Central Statistical Administration's Computer System Discussed (S. Bushev; VESTNIK STATISTIKI, Mar 83).....	54

#### CONFERENCES

First Soviet-West German Seminar on Optical Processing of Images (V. P. Koronkevich, P. Ye. Tverdokhleby; AVTOMETRIYA, Nov-Dec 82).....	61
--	----

7 July 1983

USSR REPORT  
CYBERNETICS, COMPUTERS AND AUTOMATION TECHNOLOGY  
No. 72

CONTENTS

GENERAL

Distributed Data Processing and Distributed Computer Systems (Eduard Vladimirovich Yevreinov; RASPREDELENNAYA OBRABOTKA INFORMATSII I RASPREDELENNYYE VYCHISLITEL'NYYE SISTEMY (NOVOYE V ZHIZNI, NAUKE, TEKHNIKE: SERIYA "RADIOELEKTRONIKA I SVYAZ"), Mar 83).....	1
Problems of Effective Use of Computer Technology in Data Processing Systems (B. I. Yermolayev, et al.; UPRAVLYAYUSHCHIYE SISTEMY I MASHINY, Jan-Feb 83).....	8
Measuring Computer System Performance Using a Standard Problem Package (K. D. Garber, M. Ye. Nemerman; UPRAVLYAYUSHCHIYE SISTEMY I MASHINY, Jan-Feb 83).....	14
Choice of Multiprocessor System Configuration for Digital Signal Processing (N. M. Allakhverdiyev, S. S. Sarafaliyeva; UPRAVLYAYUSHCHIYE SISTEMY I MASHINY, Jan-Feb 83).....	22

HARDWARE

Elektronika BZ-21 (G. Felitsius; EKONOMICHESKAYA GAZETA, No 17, Apr 83)....	29
Pocket Calculators (N. Lamm; SOTSIALISTICHESKAYA INDUSTRIYA, 1 Mar 83).....	30

Postprocessor for a Machine Tool (O. Yu. Kalinichenko, A. P. Pal'nikov; MEKHANIZATSIYA I AVTOMATIZATSIYA PROIZVODSTVA, Mar 83).....	33
Implementation of Virtual Experimental Subsystem in Multiple User System Using KAMAK Serial Highway (S. P. Vikulov, et al.; UPRAVLYAYUSHCHIYE SISTEMY I MASHINY, Jan-Feb 83).....	35
Hardware and Software of Control Computer Rack for Bench Test Systems (A. Ye. Leusenko, A. A. Petrovskiy; UPRAVLYAYUSHCHIYE SISTEMY I MASHINY, Jan-Feb 83).....	38
YeS7903M Combined I/O Paper Tape Device (UPRAVLYAYUSHCHIYE SISTEMY I MASHINY, Jan-Feb 83).....	50
SOFTWARE	
Byte-Oriented Protocol of Communication Channel Control and Its Implementation in Transport Station and Communication Processor (A. T. Bondarenko, et al.; UPRAVLYAYUSHCHIYE SISTEMY I MASHINY, Jan-Feb 83).....	52
Basic Characteristics and Functional Capabilities of Interactive Graphic Design System (G. Yu. Veprinskiy, et al.; UPRAVLYAYUSHCHIYE SISTEMY I MASHINY, Jan-Feb 83).....	54
Construction Principles of KVANT Data Teleprocessing System (V. L. Kompel'makher; UPRAVLYAYUSHCHIYE SISTEMY I MASHINY, Jan-Feb 83).....	56
Adjustable Subsystem for Stimulating Arbitrary Special-Purpose Computers for Inertial Navigation Systems (Ye. Ye. Zav'yalov, A. A. Makarov; UPRAVLYAYUSHCHIYE SISTEMY I MASHINY, Jan-Feb 83).....	60
APPLICATIONS	
Adaptive System for Control of Cutting Process Based on Coherent Optical Microprocessor (V. A. Ostaf'yev, et al.; MEKHANIZATSIYA I AVTOMATIZATSIYA UPRAVLENIYA (NAUCHNO-PROIZVODSTVENNYY SBORNIK), Jan-Mar 83).....	66

Experience of Introducing UkSSR Automated Scientific and Technical Information System in Republic Scientific and Technical Information Centers (A. A. Babich, et al.; MEKHANIZATSIYA I AVTOMATIZATSIYA UPRAVLENIYA (NAUCHNO-PROIZVODSTVENNYY SBORNIK), Jan-Mar 83).....	69
Automated Warehouse Control System Based on Microcomputers (A. N. Chebotarev; MEKHANIZATSIYA I AVTOMATIZATSIYA PROIZVODSTVA, Mar 83).....	74
Computer Networks (I. Bilinskiy; SOVETSKAYA LATVIYA, 16 Mar 83).....	80
Automated System for Distributing Allocated Spare Part Resources (B. Ya. Kavalerchik, I. I. Genadinik; UPRAVLYAYUSHCHIYE SISTEMY I MASHINY, Jan-Feb 83).....	82

#### CONFERENCES

Microprocessor Technology in Control Systems (I. S. Yeremeyev, G. S. Kodenskiy; UPRAVLYAYUSHCHIYE SISTEMY I MASHINY, Jan-Feb 83).....	87
---	----

#### PUBLICATIONS

Articles in AVTOMETRIYA, March-April 1983 (AVTOMETRIYA, Mar-Apr 83).....	90
Articles in UPRAVLYAYUSHCHIYE SISTEMY I MASHINY, No 1, Jan-Feb 83 (UPRAVLYAYUSHCHIYE SISTEMY I MASHINY, Jan-Feb 83).....	97

8 August 1983

# USSR REPORT

## CYBERNETICS, COMPUTERS AND AUTOMATION TECHNOLOGY

No. 73

### CONTENTS

#### GENERAL

- Georgia's Problems With Organization of Computer Activities  
(Temur Ratiani, Meri Broladze; ZARYA VOSTOKA,  
19 Apr 83)..... 1
- Close Soviet Ties With Robotron  
(LENINGRADSKAYA PRAVDA, 7 Jul 83)..... 5

#### HARDWARE

- Minicomputers in Automated Control Systems: Elektronika-100-  
25  
M, Khanov, A. Yeregin; TEKHNKA I VOORUZHENIYE,  
May 83)..... 7
- Unit for Input of Digital Information Into 'Elektronika TZ-  
16M' SVM  
(I. Ye. Izvolenskiy, K. V. Konovalov; MEKHANIZATSIYA I  
AVTOMATIZATSIYA UPRAVLENIYA (NAUCHNO-PROIZVODSTVENNYY  
SBORNIK), Oct-Dec 82)..... 8
- Structure of Data Processing Subsystem of Multiprocessor  
Computer Systems With Rearrangement Structure  
(A. A. Zabolotnyy, et al.; UPRAVLYAYUSHCHIYE SISTEMY  
I MASHINY, Mar-Apr 83)..... 12
- Universality of Discrete Signal Conversion, Generation and  
Reception Devices  
(S. M. Krylov; UPRAVLYAYUSHCHIYE SISTEMY I MASHINY,  
Mar-Apr 83)..... 19

Imitation Method of Determining Error Correction Efficiency in Discrete Computer Objects by Hardware Check Means (B. Ye. Liokumovich; UPRAVLYAYUSHCHIYE SISTEMY I MASHINY, Mar-Apr 83).....	27
--	----

## SOFTWARE

Comparative Characteristics of Methods for Organization and Technology of Software Development for Management Information Systems (A. P. Ivanov, N. V. Tychina; MEKHAIZATSIYA I AVTOMATIZATSIYA PROIZVODSTVA, Apr 83).....	35
Dialog System for Designing Printed Circuit Boards at Automated Work Site Complex (A. Ya. Vol'fenzon, et al.; UPRAVLYAYUSHCHIYE SISTEMY I MASHINY, Mar-Apr 83).....	37
Support of Functions of Operating System of 'El'brus' Multiprocessor Computer Complex in Temp Instrumental Complex (A. A. Gutman; UPRAVLYAYUSHCHIYE SISTEMY I MASHINY, Mar-Apr 83).....	45
Method of Organizing Data for Simulation of Virtual External Memory of YeS Computers and Creation of Large-Volume Data Bases (L. I. Semchenkov; UPRAVLYAYUSHCHIYE SISTEMY I MASHINY, Mar-Apr 83).....	53
Package for Creating Hardware-Independent Software for Machine Graphics (G. A. Pankeyev; UPRAVLYAYUSHCHIYE SISTEMY I MASHINY, Mar-Apr 83).....	64
Graphic Package for Data Analysis: Structure and Main Principles (L. G. Kaminskiy, et al.; UPRAVLYAYUSHCHIYE SISTEMY I MASHINY, Mar-Apr 83).....	66

## APPLICATIONS

Process Control System for Drilling Printed Circuit Boards (S. D. Perekhvatov, et al.; MEKHAIZATSIYA I AVTOMATIZATSIYA PROIZVODSTVA, Feb 83).....	67
Improving Special-Purpose Planning for Development of a Management Information System for the National Economy (Z. V. Antoshina; MEKHAIZATSIYA I AVTOMATIZATSIYA PROIZVODSTVA, Feb 83).....	71

Automation of Mold Loft-Technological Preparation for Hull Production (A. D. Kolchak; MEKHANIZATSIYA I AVTOMATIZATSIYA UPRAVLENIYA (NAUCHNO-PROIZVODSTVENNYY SBORNIK), Oct-Dec 82).....	76
SAPR ASU Users and Their External Work Scenarios (A. V. Pershin, V. M. Yurkov; MEKHANIZATSIYA I AVTOMATIZATSIYA UPRAVLENIYA (NAUCHNO-PROIZVODSTVENNYY SBORNIK), Oct-Dec 82).....	79
Automated Management Systems in Soviet Industry (P. Soltan, S. Kornya; KOMMUNIST MOLDAVII, Feb 83).....	84
Accounting Issues Between Computer Experts and Users in Tajikistan (V. Erokhin; KOMMUNIST TADZHIKISTANA, 9 Apr 83).....	89
Network Measurement in ASGS (N. Ivanov; VESTNIK STATISTIKI, Apr 83).....	93

#### CONFERENCES AND EXHIBITIONS

Modeling and Automation of Processes of Designing, Manufacturing and Operating Complex Systems (I. I. Krinetskiy, V. I. Garbarchuk; MEKHANIZATSIYA I AVTOMATIZATSIYA UPRAVLENIYA (NAUCHNO-PROIZVODSTVENNYY SBORNIK), Oct-Dec 82).....	99
Prospects for Development and Use of Microprocessors and Microcomputers (Yu. A. Ilovayskiy; MEKHANIZATSIYA I AVTOMATIZATSIYA UPRAVLENIYA (NAUCHNO-PROIZVODSTVENNYY SBORNIK), Oct-Dec 82).....	101
'Automation-83' Exhibit in Moscow (Yu. Sinyakov; SOVETSKAYA LATVIYA, 17 May 83).....	102

#### PUBLICATIONS

Synopses of Articles in UPRAVLYAYUSHCHIYE SISTEMY I MASHINY, Mar-Apr 83 (UPRAVLYAYUSHCHIYE SISTEMY I MASHINY, Mar-Apr 83).....	104
--	-----

27 September 1983

USSR REPORT  
CYBERNETICS, COMPUTERS AND AUTOMATION TECHNOLOGY

No. 74

## CONTENTS

## HARDWARE

SM-4 Minicomputer Production Begun (TASS, 7 Jul 83) .....	1
Development of New YeS-1061 Computer Discussed (Yu.V. Karpilovich Interview ; SOVETSKAYA BELORUSSIYA, 3 Apr 83) .....	2
YeS-6903 Random Number Input Unit (EKONOMICHESKOYE SOTRUDNICHESTVO STRAN-CHLENOV SEV, No 1, 1983) .....	5
Multiprocessor Systems: Basic Organization Principles (Review) (Aleksandr Stepanovich Balabanov; UPRAVLYAYUSHCHIYE SISTEMY I MASHINY, No 3, May-Jun 83) .....	8
Design Strategy of Microcomputer and Microprocessor System Memory (Yuriy Sergeyevich Yakovlev; UPRAVLYAYUSHCHIYE SISTEMY I MASHINY, No 3, May-Jun 83) .....	22
Organization of Program Channel of Data File Input-Output in Systems Based on K580IK80 Microprocessors (Mikhail Petrovich Naumchik; UPRAVLYAYUSHCHIYE SISTEMY I MASHINY, No 3, May-Jun 83) .....	32
Selection of Bit-Slice Microprocessor Structure (Viktor Vladimirovich Novoselov and Lev Alekseyevich Shumilov; UPRAVLYAYUSHCHIYE SISTEMY I MASHINY, No 3, May-Jun 83) .....	34
Communication Processor Based on SM-1 Minicomputer in YeS Computer Data Teleprocessing System (Yuriy Musovich Bishenov; UPRAVLYAYUSHCHIYE SISTEMY I MASHINY, No 3, May-Jun 83) .....	36

New Aspects of Approach to Resolution of Certain Problems of Computer Engineering Under Present Conditions (Ye. I. Bryukhovich; UPRAVLYAYUSHCHIYE SISTEMY I MASHINY, No 2, Mar-Apr 81).....	46
--	----

## SOFTWARE

The K580/LGU Cross System (Sergey Nikolayevich Baranov, et al.; UPRAVLYAYUSHCHIYE SISTEMY I MASHINY, No 3, May-Jun 83).....	57
Method of Running Programs on Computers With Similar Architecture (Leonid Konstantinovich Bigday, et al.; UPRAVLYAYUSHCHIYE SISTEMY I MASHINY, No 3, May-Jun 83).....	61
Method of Creating a Family of Dedicated Real-Time Operating Systems (Kalev Imarevich Kyaeramees and Leo Leovich Mytus; UPRAVLYAYUSHCHIYE SISTEMY I MASHINY, No 3, May-Jun 83).....	64
Transfer of Programs From DOS YeS Source Text Libraries to OS YeS Libraries (Aleksandr Ruvimovich Mayorskiy; UPRAVLYAYUSHCHIYE SISTEMY I MASHINY, No 3, May-Jun 83).....	67
Intelligent Data Access Systems (Review) (Vladimir Ivanovich Polyakov; UPRAVLYAYUSHCHIYE SISTEMY I MASHINY, No 3, May-Jun 83).....	69
Graphics Package GRAS: Buffered Output (Yuriy Vladimirovich Kol'tsov, et al.; UPRAVLYAYUSHCHIYE SISTEMY I MASHINY, No 3, May-Jun 83).....	79
Graphics Package for Data Analysis. Image Formation Tools (Stanislav Vladimirovich Klimenko, et al.; UPRAVLYAYUSHCHIYE SISTEMY I MASHINY, No 3, May-Jun 83).....	81
ORAKUL-1 Information Reference System (Vladimir Avdeyevich Kushnirov, et al.; UPRAVLYAYUSHCHIYE SISTEMY I MASHINY, No 3, May-Jun 83).....	84

## APPLICATIONS

RSFSR Computer Centers' 10-Year Performance Summarized (N. Yegorov, et al.; VESTNIK STATISKIKI, No 5, May 83).....	88
Operating Efficiency of Computer Centers in Estonia Evaluated (T. Vel'dre; SOVETSKAYA ESTONIYA, 11 Feb 83).....	95

Need for National Economic Information Management Improvement Underscored (Yu. Kanygin; PRAVDA, 2 Jul 83) .....	97
Development of Automated System of Plan Calculations (V. Bezrukov; PLANOVOYE KHOZYAYSTVO, No 5, May 83) .....	102
Computer Support for Banking Operations in Kazakhstan (M. Geydarov; NARODNOYE KHOZYAYSTVO KAZAKHSTANA, No 5, May 83) .....	112
Comprehensive Scientific Research and Development Management System (G. Lopato; PROMYSHLENNOST' BELORUSSII, No 3, Mar 83) .....	118

#### PUBLICATIONS

Table of Contents of UPRAVLYAYUSHCHIYE SISTEMY I MASHINY, May-Jun 83 (UPRAVLYAYUSHCHIYE SISTEMY I MASHINY, No 3, May-Jun 83) ....	123
---	-----

#### CONFERENCES

All-Union School of Young Scientists (O. L. Perevozchikova; UPRAVLYAYUSHCHIYE SISTEMY I MASHINY, No 3, May-Jun 83) .....	127
--	-----

#### PERSONALITIES

60th Birthday of V. P. Derkach (UPRAVLYAYUSHCHIYE SISTEMY I MASHINY, No 3, May-Jun 83) ....	129
--	-----

27 October 1983

# USSR REPORT

## CYBERNETICS, COMPUTERS AND AUTOMATION TECHNOLOGY

No. 75

### CONTENTS

#### GENERAL

Microelectronics and Cooperation of CEMA Countries (D. Zhimerina; MALYYE VYCHISLITEL'NYYE MASHINY (NOVOYE V ZHIZNI, NAUKE, TEKHNIKE: SERIYA "RADIOELEKTRONIKA I SVYAZ''), No 2, Feb 83).....	1
Computer Maintenance Contract Problem Discussed (V. Laletin, V. Belykh; EKONOMICHESKAYA GAZETA, No 21, May 83).....	3
Ministry of Electronics Industry Responds to Criticism of Computer Maintenance, Production (P. Stukolov; EKONOMICHESKAYA GAZETA, No 24, Jun 83).....	4
Ministry of Radio Industry Responds to Criticism of Computer Maintenance, Production (N. Gorshkov; EKONOMICHESKAYA GAZETA, No 26, Jul 83).....	5
Director of Institute of Applied Mathematics Interviewed (A. N. Tikhonov, A. A. Samarskiy, Interview; IZVESTIYA, 12 Jul 83).....	6

#### HARDWARE

SM and Elektronika S5 Computers (Yevgeniy Pavlovich Balashov; MALYYE VYCHISLITEL'NYYE MASHINY (NOVOYE V ZHIZNI, NAUKE, TEKHNIKE: SERIYA "RADIOELEKTRONIKA I SVYAZ''), No 2, Feb 83).....	13
Graphic Electronic Console (STROITEL'NAYA GAZETA, 3 Jun 83).....	21

Programmable Control Device for Matrix Video Signal Shapers on Charge-Coupled Devices (S. Ya. Afanas'yev, et al.; AVTOMETRIYA, No 3, May-Jun 83).....	22
New Technique of Welding-Soldering Mass-Application Semiconductor Diodes (V. I. Makhnenko; VISNYK AKADEMIYI NAUK UKRAYINS'KOYI RSR, No 5, May 83).....	28
SOFTWARE	
Binary Image Analyzer (I. V. Belago, et al.; AVTOMETRIYA, No 3, May-Jun 83).....	32
Asymptotic Relative Effectiveness of Some Rules of Noncoherent Signal Detection in Noise of Unknown Level (Yu. N. Ovcharov; AVTOMETRIYA, No 3, May-Jun 83).....	33
APPLICATIONS	
Representing Design Information in Automated Systems (O. Musayev; NA STROYKAKH ROSSII, No 6, Jun 83).....	38
Computerized Processing of Transport Documentation (NA STROYKAKH ROSSII, No 6, Jun 83).....	40
Automated Design System Center Discussed (V. Aleksandrov; LENINGRADSKAYA PRAVDA, 22 Jun 83).....	42
Use of Computers in Design of Housing (O. Rybinskiy, et al.; STROITEL'NAYA GAZETA, 27 Jul 83)...	45
Automated Industrial Contracting System Described (D. Rayev; KHOZYAYSTVO I PRAVO, No 6, Jun 83).....	48
Automated System for Housing and Municipal Services Management (L. Anisovets; SOVETSKAYA BELORUSSIYA, 9 Apr 83).....	51
Man-Machine Interaction Simplified (Yu. Dolzhanskiy; AVTOMOBIL'NYY TRANSPORT KAZAKHSTANA, No 6, Jun 83).....	54
Efficiency and Development Problems of Automated Control Systems Discussed (M. Shcherbak; NARODNOYE KHOZYAYSTVO KAZAKHSTANA, No 6, Jun 83).....	57

## CONFERENCES

IFAC Conference on AI Opens in Leningrad (TASS, 4 Oct 83).....	63
---	----

## PUBLICATIONS

Table of Contents of AVTOMETRIYA, No 3, May-June 1983 (AVTOMETRIYA, No 3, May-Jun 83).....	64
---	----

**END OF**

**FICHE**

**DATE FILMED**

6 April 1984